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| Newton's Third Law of Motion |

 

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| **Water Whirl**  Objective:  To demonstrate Newton's third law of motion  Context:  Small cooperative groups  Materials:  empty aluminum soft drink can with pull tab attached, hammer, small nail, string, water, deep sink or bucket, lab sheet  Procedure:  1.  Have an adult use the hammer and nail to punch two or three evenly spaced holes around the can close to the bottom. When the nail is in each  hole, push it to the left to angle the hole slightly.  2.  Pull the tab straight up and tie one end of the string to it.  3.  Over the sink or bucket, fill the can with water.  Hold the loose end of the string and observe the action and reaction.  Results:  As the water goes out of the holes (the action), the can should begin to spin (the reaction).  Suggestions: If no sink is available, the can could be filled by dunking it in a partially filled bucket of water.  This activity can be done outside using a bucket to prevent water from being spilled in the classroom.  The can spins more quickly at first.  As the water pressure decreases in the can, the spinning slows down.  Have plenty of water available because students will want to repeat this several times.  Small holes will work better.   A thumbtack might even work better than a hammer and nail. |